

**Supplemental to the 2006 Biological Evaluation
of
Hemlock Woolly Adelgid
at
Raystown Lake,
Hesston, Pennsylvania**



Prepared by

Amy Hill, Entomologist

USDA Forest Service
State and Private Forestry
Forest Health Protection
180 Canfield Street
Morgantown, WV 26505

February 2016

In the fall of 2005 USDA Forest Service with assistance from Raystown Lake personnel, conducted surveys to evaluate hemlock woolly adelgid (HWA), *Adelges tsugae* population densities at Raystown Lake, and to assess the need for treatment. Populations were sufficient to impact tree health in some of the areas surveyed and the use of imidacloprid was recommended in stands where high-valued infested hemlock trees occurred. In 2006, a biological evaluation (BE) was prepared by the Morgantown Field Office (MFO) and was submitted to Raystown Lake. This document is a supplement to the 2006 BE and justifies the need for federal funding for 2015 HWA suppression.

HWA HISTORY AT RAYSTOWN LAKE

HWA was first discovered at Raystown Lake in 1999 at the northern end of the lake. In 2002, a survey was conducted to determine the extent and magnitude of HWA infestations. Over 160 acres of hemlocks were surveyed and about 144 acres were determined to be infested with HWA.

The impacts of HWA since 2002 and the droughts of recent years have stressed hemlock resources at Raystown Lake. The hemlock woolly adelgid has decimated eastern hemlock stands across the area. In effort to start controlling HWA after the initial survey, chemical treatments were first conducted in the fall of 2003 and spring of 2004. In the meantime, an Integrated Pest Management Plan (IPMP) was prepared in 2006 by Raystown personnel. All subsequent requests for federal funding have been consistent and follow the 2006 IPMP and 2006 BE. It should be noted that Raystown was home to 30+ eastern hemlocks stands, but now only 9 remain. These remaining stands (4 areas) are only surviving due to continual pest suppression treatments.

2015 HWA Suppression Needs

In 2014 Raystown staff conducted surveys in the 9 stands and results indicated that treatments would be needed in 2015 due to an increase in HWA populations. Approximately 1,230 trees are proposed for treatment with imidacloprid (Table 1). Treatment maps can be found in Appendix A.

Table. 1 Location, stand and number of trees to be treated.

Line Item	Location	Stand Number	Water or Land Access	Latitude	Longitude	Number of Trees to be Treated
0001	Snyders Run	3a	water	78° 2' 26.82"W	40° 25' 50.37"N	275
		5a	water	78° 3' 11.74"W	40° 25' 44.69"N	
		6	water	78° 2' 40.87"W	40° 26' 0.62"N	
		10	water	78° 3' 31.23"W	40° 25' 49.09"N	
0002	Mitigation Area	7	water/land	78° 9' 40.1"W	40° 22' 20.32"N	275
		8	water/land	78° 10' 14.32"W	40° 21' 55.86"N	
		23	water	78° 9' 14.95"W	40° 22' 9.7"N	
0003	Ridge Camp	16	land	78° 5' 3.59"W	40° 23' 4.04"N	290
0004	Tatman Run	26	land	78° 10' 8.76"W	40° 18' 15.32"N	290
0005	Ridge Camp/ Tatman Run	16 & 26	land	See above	See above	100
Total						1,230

Resource managers will continue to annually monitor tree health, adelgid population densities, and treatment efficacy. A final report will be submitted to the MFO following the year of treatment.

Appendix A

Treatment Maps







